

ABSTRACT OF THE DISCLOSURE

An injection system for introducing feed material into a plasma mass filter includes an injector for producing a jet of feed material. For a plasma mass filter having a cylindrical wall that surrounds a plasma chamber, the injector is mounted to the outside of wall and oriented to deliver a feed jet into the plasma chamber. Specifically, the injector is oriented to deliver a jet that is directed toward a target volume in the chamber that is located substantially on the longitudinal axis defined by the cylindrical wall. More specifically, the feed material is injected into the chamber to the target volume along a path that is transverse to the direction of plasma rotation in the chamber. A vaporization energy source can be included to generate and direct an energy beam toward the target volume to vaporize the jet of feed material as the jet arrives at the target volume.